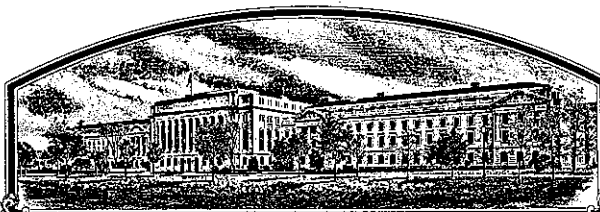


No.

8000052



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Terra Seed Company**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'Deltapine SR-5'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 18th day of December in the year of our Lord one thousand nine hundred and eighty.

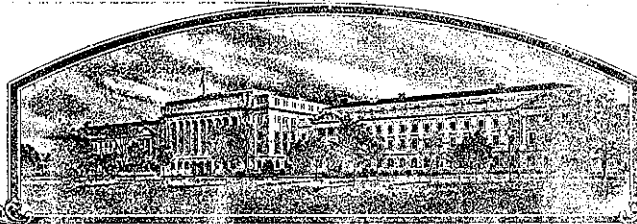
Attest:

*Kenneth H. ...*  
Acting  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*John R. Block*  
Secretary of Agriculture

No.

8000052



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Delta & Pine Land Company**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (1930, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

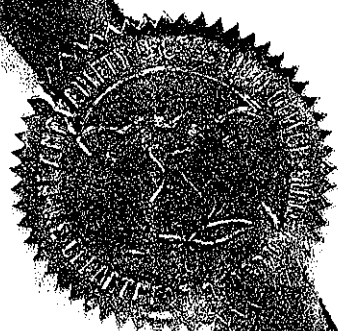
'Deltapine SR-5'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 18th day of December in the year of our Lord one thousand nine hundred and eighty.

Must:

*Edward K. Z...*  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*W. B. B...*  
Secretary of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY 6434-58-61		1b. VARIETY NAME Deltapine SR-5		FOR OFFICIAL USE ONLY PV NUMBER 8000052	
2. KIND NAME Cotton		3. GENUS AND SPECIES NAME Gossypium hirsutum		FILING DATE 2/7/80	TIME 1:00 <u>A.M.</u>
4. FAMILY NAME (BOTANICAL) Malvaceae		5. DATE OF DETERMINATION November 1967		FEE RECEIVED \$ 500. \$ 250.00	DATE 2/7/80 11/13/80
6. NAME OF APPLICANT(S) Delta & Pine Land Company		7. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) Scott, Mississippi 38772		8. TELEPHONE AREA CODE AND NUMBER (601) 742-3351	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Delaware		11. DATE OF INCORPORATION 10/19/78
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Research Department Delta & Pine Land Company Scott, Mississippi 38772 JERRY D. CARROLL Southwestern Division Delta & Pine Land Co. Route 1 Box 110 Lumberton, TX 79401					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:					
<input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)					
<input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement.					
<input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)					
<input checked="" type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.					
14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

December 19, 1979  
(DATE)

December 24, 1979  
(DATE)

Earl C. Ewing  
(SIGNATURE OF APPLICANT)

Dr. Roger A. Ward  
(SIGNATURE OF APPLICANT)

**GENERAL:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

**ITEM**

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

DELTA & PINE LAND COMPANY'S APPLICATION FOR DELTAPINE SR-5Origin and Breeding History

Deltapine SR-5 originated from a  $F_3$  plant selected in 1966 from a cross made in 1964 between Acala 1517 BR2 and a breeding line derived from the cross Rex x Deltapine Smooth Leaf 358. Individual plant selection in the final cross was begun in the  $F_2$  in 1965, with plant selections within progeny rows in the  $F_3$  in 1966.

Deltapine SR-5 was tested in progeny rows in the  $F_4$  in 1967 and in the  $F_5$  in 1968. From 1969 to 1978 Deltapine SR-5 was tested in replicated variety trials at various High Plains locations.

Deltapine SR-5 has been tested by public experiment stations and other companies also. The experimental designation since 1966 has been Deltapine 6434-58-61. In comparison with current Deltapine varieties in the High Plains, Deltapine SR-5 exhibits increased tolerance to Verticillium Wilt.

DELTA & PINE LAND COMPANY, LUBBOCK, TEXAS 79401

10/10/80 Addition to Cotton Application No. 8000052-Deltapine SR-5

Exhibit A: Stability of Deltapine SR-5

The stability of Deltapine SR-5 derives from the fact that it originated from a single F3 plant selection that has been carefully maintained as a separate entity to assure that the variety remains true breeding. The attached tables demonstrate the consistency of Deltapine SR-5 for fiber and agronomic characteristics within the variations caused by environment. Deltapine SR-5 has consistently given fiber strength of 22 grams/tex or greater (Table B I 1) during five years of testing. Plant height has consistently been taller than Deltapine SR-1

In order to assure this stability, plants of the variety are reselected at frequent intervals, grown in progeny rows, checked in progeny tests, and the variety then reconstituted by bulking lines which are characteristic of the variety.

DELTA & PINE LAND COMPANY , LUBBOCK, TEXAS 79401  
10/10/80 Amendment to Cotton Application No. 8000052-Deltapine SR-5

EXHIBIT A

Variations in phenotypic characters in Deltapine SR-5 which have been noted during its development are differences in smoothness of leaf with the population. These differences are rated visually using the scale and descriptions given below.

<u>SCALE</u>	<u>DESCRIPTION</u>
5	Heavy Pubescence
6	Moderate Pubescence
7	Deltapine Smooth Leaf Type
8	Glabrous

Those plants which are given a rating of less than 7 (in this case a 5 or 6 ) are classified as hairy leaf plants in our rating system. These hairy leaf plants are variant plant types in Deltapine SR-5.

This variation is described under EXHIBIT C, Item 8, and detailed in Table C VI.

DELTA & PINE LAND COMPANY, LUBBOCK, TEXAS 79401  
10/10/80 Amendment fo Cotton Application No. 8000052-Deltapine SR-5

TABLE C VI

Variants for leaf smoothness in Deltapine SR-5 are hairy leaf plants as determined by the classing system described in EXHIBIT A.

<u>CLASS</u>	<u>% OF TOTAL POPULATION</u>	
5	6.7	} 31.3% Hairy Plants
6	24.6	
7	50.6	
8	18.0	



**EXHIBIT "A"**

**ASSET LIST**

**Plant Variety Protection on Following Varieties:**

1. Deltapine SR 482
2. Deltapine SR 383
3. Southland M-1
4. Southland 007 - Ready for PVP
5. Terra SR 10
6. Southland 400
7. All germplasm in the **SOUTHLAND SEED COMPANY** research program.
8. All existing PVP
9. All bagged seed in the possession of **SOUTHLAND SEED COMPANY**

**TOTAL: \$200,996.00**

**Research Equipment**

1. Hance Lab Seed Cleaner
2. Toledo Scales - 100 lbs.
3. Toledo Scales - 500 gm.
4. Eagle 10 Saw Gin
5. 8 Saw Table Model Gin
6. Debur Machine
7. Cotton Seed Oil Press
8. Small Delinting Line with Dryer
9. Cement Mixer (for delinting)
10. Cotton Stripper 282 J.D.
11. 4 Row Planter 6100 J.D.
12. 4 Almeco Belt Cones
13. Sortex Pneumatic Separator
14. Miscellaneous Small Research Supplies and Equipment

**Office Equipment and Furniture**

1. Fax Machine RF 850
2. 1 Wood Executive Desk and 3 Chairs
3. 1 Metal Credenza
4. 4 Metal Desks
5. 13 Office Chairs
6. 1 Fireproof File Cabinet
7. 5 Work Tables
8. 5 Book Shelves
9. Customer List
10. All Computer Software Pertaining to SSC

**TOTAL EQUIPMENT: \$ 26,000.00**

**TOTAL PURCHASE PRICE: \$226,996.00 plus  
the total amount  
of "fuzzy seed"  
(to be calculated  
after closing) at  
\$160.00 per ton.**

## EXHIBIT B

## DELTA &amp; PINE LAND COMPANY'S APPLICATION FOR DELTAPINE SR-5

Data Indicative of Novelty

Deltapine SR-5 most nearly resembles Deltapine SR-1 (PVP No. 7200042). These two varieties have a common parent, Deltapine Experimental Strain 5835 (Rex x Deltapine Smooth Leaf 358). Deltapine SR-5 has been compared with Deltapine SR-1 in Research Department tests during the period 1972-78 as shown in the following summary:

Table B I - Comparison Deltapine SR-5 and SR-1

	<u>Deltapine SR-5</u>	<u>Deltapine SR-1</u>	<u>Difference</u>
Lint yield (lbs.) (1972-1978)	534	499	+30
Percent of Check (%)	107	100	+7
Lint Percent (%)	22.4	21.2	+1.2
Plant Height (Index)	2.6	2.3	+0.3
Retention of Seed Cotton in Boll (Index)	2.6	2.6	0
Percent Wilt ( <u>Verticillium albo atrium</u> )	38	56	+18
Staple Length Servo-Fibrograph (in.)	1.01	1.02	-.01
Fiber Length Uniformity index/ratio	43/76	44/77	-1/-1
Fiber Strength (gm/tex)	23.4	23.9	-0.6
Micronaire (units)	3.3	3.2	+0.1

The above table represents an average of six years and includes 17 tests. Yield results are reported by years and by tests in the attached tables (B I 1). Copies of the original tables from Delta & Pine Land Company records are available but are not attached.

The principal feature of Deltapine SR-5 is an improved level of resistance to Verticillium Wilt. This is best demonstrated by putting together results of those tests where wilt infection was rated. The following table covers wilt tests in four years and non-wilt tests in five years. These results are summarized as follows:

Table B II - Comparison Deltapine SR-5 and SR-1 in the Presence and Absence of Wilt

	<u>Deltapine SR-5</u>	<u>Deltapine SR-1</u>	<u>Difference</u>
Yield Wilt Present	513	443	70
Yield Wilt Absent	546	508	38
Yield % Check Wilt Present	116	CK	16
Yield % Check Wilt Absent	107	CK	7
Wilt Percentage (Wilt Present)	38	57	19

DELTA & PINE LAND COMPANY, SCOTT, MISSISSIPPI 38772  
3/13/80 Amendment to Cotton Application No. 8000052 - Deltapine SR-5

EXHIBIT B

The principal feature which distinguishes Deltapine SR-5 is its increased wilt resistance. Our Table B I shows a difference in wilt resistance of 18%. Since we are talking about wilt percent the figure should be -18 rather than +18.

In Deltapine SR-1 we have good length, strength and micronaire. Our objective was to increase the wilt resistance and maintain the other characteristics of the Deltapine SR-1. Inasmuch as all these features are quantitatively inherited, we have been very fortunate in altering only two, the wilt resistance and the lint percentage.

Differences in percent wilt were carefully rated, and Deltapine SR-5 averaged having 18 percent less wilt. As further proof of this difference, the Deltapine SR-5 outyields the Deltapine SR-1 by 16% where wilt is present and by 7% where there is no wilt. This 9 percent difference then is due to the increased wilt resistance of Deltapine SR-5.

Lint Percentage  
Delta & Pine Land Company, Research Department Tests  
From Exhibit B

<u>Year and No. of Tests</u>	<u>Deltapine SR-5</u>	<u>Deltapine SR-1</u>	<u>Differences</u>
1972 (1)	23.6	22.5	+1.1
1973 (2)	24.4	23.1	+1.3
1974 (3)	20.6	19.2	+1.4
1976 (3)	16.9	14.5	+2.4
1977 (4)	24.0	23.6	+0.4
1978 (4)	<u>25.1</u>	<u>24.6</u>	<u>+0.5</u>
Average	22.4	21.2	+1.2

For six years (tests failed in 1975) Deltapine SR-5 has demonstrated a consistently higher lint percentage than Deltapine SR-1.

The parents of Deltapine SR-5 and SR-1 are quite different on one side, but the principal difference between these two varieties is in their relative resistance to the Verticillium Wilt disease.

OBJECTIVE DESCRIPTION OF VARIETY  
COTTON (GOSSYPIMUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Delta & Pine Land Company		FOR OFFICIAL USE ONLY	
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Scott, Mississippi 38772		PVPO NUMBER 8000052	VARIETY NAME OR TEMPORARY DESIGNATION Deltapine SR-5

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

1. SPECIES:

1 = GOSSYPIMUM HIRSUTUM 2 = GOSSYPIMUM BARBADENSE

2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adopted, 2 = Adopted):

EASTERN  DELTA  CENTRAL  HIGH PLAINS  EL PASO AREA  
 WESTERN LOW HOT VALLEYS  SAN JOAQUIN  OTHER (Specify) \_\_\_\_\_

3. MATURITY (50% Open Boll): See Table C I

NO. OF DAYS EARLIER THAN .....  } 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213  
 NO. OF DAYS LATER THAN .....  } 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1  
7 = LANKART 57 8 = OTHER (Specify) Deltapine SR-1

4. PLANT HABIT:

1 = SPREADING 2 = INTERMEDIATE 3 = COMPACT  1 = FOLIAGE SPARSE 2 = DENSE  
3 = OTHER (Specify) \_\_\_\_\_

5. PLANT HEIGHT: See Table C II

CM. SHORTER THAN .....  } 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213  
 CM. TALLER THAN .....  } 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1  
7 = LANKART 57 8 = OTHER (Specify) Deltapine SR-4

6. MAIN STEM:

1 = LAX 2 = ASCENDING 3 = ERECT  CM. TO FIRST FRUITING BRANCH  NO. OF NODES TO FIRST FRUITING BRANCH (from cotyledonary node)

7. LEAF: Table C V

CM. WIDTH OF WIDEST LEAVES AT MATURITY

8. LEAF PUBESCENCE: Table C VI

2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF) 3 = PUBESCENT (STONEVILLE 213)  
4 = HEAVY PUBESCENCE (H<sub>1</sub> OR H<sub>2</sub>) 5 = OTHER (Specify) \_\_\_\_\_

9. LEAF COLOR:

1 = VIRESCENT YELLOW 2 = LIGHT GREEN 3 = DARK GREEN (Acala-442) 4 = RED  
5 = OTHER (Specify) \_\_\_\_\_

10. LEAF TYPE:

1 = NORMAL 2 = OKRA 3 = SUPER OKRA 4 = OTHER (Specify) \_\_\_\_\_

11. FLOWER:

1 = NECTARILESS 2 = NECTARIED

Petals: 1 = CREAM 2 = YELLOW  Pollen: 1 = CREAM 2 = YELLOW

12. FRUITING BRANCH TYPE:

1 = CLUSTER 2 = SHORT 3 = NORMAL  1 = DETERMINATE 2 = INDETERMINATE

13. GOSSYPOL CONDITION:

1 = GLANDLESS 2 = REDUCED GLANDS 3 = NORMAL GLANDS  1 = NORMAL BUD GOSSYPOL  
4 = OTHER (Specify) \_\_\_\_\_ 2 = HIGH BUD GOSSYPOL

14. SEEDS:

±  SEED INDEX (Fuzzy seed basis)  Seed Fuzz: 1 = SPARSE (GREGG 35) 2 = MODERATE (DPL-16)  
3 = HEAVY (ACALA SJ-1) 4 = OTHER (Specify) \_\_\_\_\_

8000052 Deltapine SR-5  
10/15/80

## 15. BOLLS:

Table C VIII

Table C IX

<input type="text" value="2"/> Locules: 1 = 3-4 2 = 4-5	<input type="text" value="3"/> <input type="text" value="0"/> NO. SEEDS PER BOLL	<input type="text" value="3"/> <input type="text" value="9"/> <input type="text" value="0"/> LINT PERCENT	<input type="text" value="3"/> <input type="text" value="8"/> MM. DIAMETER
<input type="text" value="2"/> Pitted: 1 = NONE 2 = FINELY 3 = COARSELY	<input type="text" value="6"/> <input type="text" value="0"/> <input type="text" value="0"/> GRAMS SEED COTTON PER BOLL	<input type="text" value="2"/> Breadth: 1 = BROADER AT BASE 2 = BROADER AT MIDDLE	
<input type="text" value="2"/> Type: 1 = STORMPROOF (WESTBURN 70) 2 = STORM RESISTANT (LANKART 57) 3 = OPEN (DELTAPINE 16)	<input type="text" value="3"/> Shape: 1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH		

## 16. BRACTEOLAS:

<input type="text" value="1"/> Breadth: 1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH	<input type="text" value="2"/> Teeth: 1 = FINE 2 = COURSE	<input type="text" value="2"/> Teeth: 1 = 3-4 2 = 5-7 3 = 8-10 4 = OTHER (Specify) _____
--	---	---

## 17. YIELD: Compared to— Not compared with any of these

<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> PERCENT LESS THAN .....	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> U.R.M. LENGTH
<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> PERCENT MORE THAN .....	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> U.R.M. LENGTH

1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213  
4 = PAYMASTER 111 5 = ACALA 1517-70  
6 = ACALA SJ-1 7 = LANKART 57

## 18. FIBER LENGTH (Complete one or more of the following and give the means):

Table B I

<input type="text" value="7"/> <input type="text" value="6"/> SPAN LENGTH 50%	<input type="text" value="4"/> <input type="text" value="3"/> SPAN LENGTH 2.5%	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> U.R.M. LENGTH
<input type="text" value="7"/> <input type="text" value="6"/> MEAN LENGTH	<input type="text" value="4"/> <input type="text" value="3"/> STAPLE LENGTH 32nd INCHES	
<input type="text" value="7"/> <input type="text" value="6"/> UNIFORMITY RATIO (MEAN/U.H.M.)	<input type="text" value="4"/> <input type="text" value="3"/> UNIFORMITY INDEX (50% SPAN/2.5% SPAN)	

## 19. FIBER STRENGTH AND ELONGATION:

Table B I

<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="4"/> 1,000 P.S.I.	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="4"/> ELONGATION E <sub>1</sub> Table C X	<input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> STILOMETER T <sub>0</sub>
<input type="text" value="3"/> <input type="text" value="3"/> <input type="text" value="1"/> Table B I MICRONAIRE READING	<input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> YARN STRENGTH (Give test method) 2185 Ct. Strength	<input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> STILOMETER T <sub>1</sub>

## 20. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="2"/> VERTICILLIUM WILT	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="1"/> FUSARIUM WILT	<input type="text" value="0"/> ROOT KNOT NEMATODE	<input type="text" value="0"/> BACTERIAL BLIGHT (Race 1)
<input type="text" value="0"/> BACTERIAL BLIGHT (Race 2)	<input type="text" value="0"/> ASCOCHYTA BLIGHT	<input type="text" value="0"/> PHYMATOTRICHUM ROOT ROT	<input type="text" value="0"/> RHIZOCTONIA
<input type="text" value="0"/> ANTHRACNOSE	<input type="text" value="0"/> RUST	<input type="text" value="0"/> OTHER (Specify) _____	

## 21. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> BOLL WEEVIL	<input type="text" value="0"/> APHID	<input type="text" value="0"/> FLEAHOPPER	<input type="text" value="0"/> LEAFWORM
<input type="text" value="0"/> FALL ARMYWORM	<input type="text" value="0"/> GRASSHOPPER	<input type="text" value="0"/> LYGUS	<input type="text" value="0"/> PINK BOLLWORM
<input type="text" value="0"/> STINKBUG	<input type="text" value="0"/> THRIP	<input type="text" value="0"/> CUTWORM	<input type="text" value="0"/> SPIDERMIT
<input type="text" value="0"/> OTHER (Specify) _____			

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.
- (2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture.

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.

ASSIGNMENT

The undersigned (the "Seller"), for good and valuable consideration hereby assigns to TERRA CHEMICALS INTERNATIONAL, INC., a Delaware corporation, and its successors and assigns (the "Buyer"), all of the undersigned's right, title and interest in and to all of the Seller's breeding rights to all generations of "stripper type" cotton seed now owned by the Seller, including, but not limited to, those described on Schedule 1 annexed hereto, and any varieties pending registration, all experimental varieties either in the increase stage or in the laboratory testing stage and all research (including such data as may be on computers), strains and materials.

This instrument is being executed in order to record the assignment described herein with the Plant Variety Protection Office of the Department of Agriculture pursuant to Section 2531(d) of Title 7 of the United States Code and the regulations promulgated thereunder.

IN WITNESS WHEREOF, the Seller has caused this Assignment to be executed on its behalf by its duly authorized officer on this 31 day of March, 1983.

DELTA PINE LAND COMPANY

By

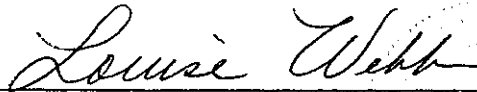
  
F.W. Canfield

STATE OF TENNESSEE

COUNTY OF SHELBY

Before me, a Notary Public, in and for said State and County, duly commissioned and qualified, personally appeared F. W. CANFIELD, known to me to be the person whose name is subscribed to the foregoing instrument and known to me to be the Financial Vice President of DELTA AND PINE LAND COMPANY, a corporation, and acknowledged to me that he executed said instrument for the purposes and consideration therein expressed, and as the act of said corporation.

Given under my hand and seal of office this 3<sup>d</sup> day of March, 1983.



Notary Public

My commission expires:

My Commission Expires March 17, 1986



## Schedule 1

Cotton Seed Varieties of Delta and Pine Land  
Company for which Certificates have been issued

<u>Variety</u>	<u>Certificate No.</u>	<u>Certificate Date</u>
Deltapine SR-1	7200042	6/27/75
Deltapine SR-2	7200043	6/27/75
Deltapine SR-4	7500089	6/17/76
Deltapine SR-5	8000052	12/18/80
Deltapine SR-980	8100098	11/19/81
Deltapine SR-482	8200067	7/15/82
Deltapine SR-383	8200137	12/30/82

ASSIGNMENT

The undersigned (the "Sellers"), for good and valuable consideration, hereby sells, assigns and transfers to Summit Seed Company, Inc., a Texas corporation, and its successors and assigns (the "Buyer") all of the undersigned's right, title and interest in and to the following plant varieties:

Certificate Number 8400088, Terra SR-10  
Certificate Number 7200043, Deltapine SR-2  
Certificate Number 7500089, Deltapine SR-4  
Certificate Number 8000052, Deltapine SR-5  
Certificate Number 8200137, Deltapine SR-383  
Certificate Number 8200067, Deltapine SR-482  
Certificate Number 7200042, Deltapine SR-1  
Certificate Number 8100098, Deltapine SR-980

This instrument is being executed in order to record the assignment described herein with the Plant Variety Protection Office, the Department of Agriculture pursuant to Section 2531(d) of Title 7 of the United States Code and Regulations promulgated thereunder.

IN WITNESS WHEREOF, the Sellers have caused this Assignment to be executed on their behalf by their duly authorized officers effective on the 27th day of August, 1986.

TERRA SEED COMPANY

By: Gregory J. Duerksen  
Gregory J. Duerksen  
Its: Vice President

TERRA INTERNATIONAL, INC.

By: Gregory J. Duerksen  
Gregory J. Duerksen  
Its: VP, Marketing & Development

STATE OF Iowa §

COUNTY OF Woodbury §

THIS INSTRUMENT ACKNOWLEDGED BEFORE ME on this the 4th day of May, 1988, by Gregory J. Duerksen, Vice President of Terra Seed Company.

Brenda S. Bradley  
Notary Public State of Iowa  
BRENDA S. BRADLEY, Notary Public  
In and for the State of Iowa  
My Commission Expires Aug. 18, 1989

STATE OF Iowa §

COUNTY OF Woodbury §

THIS INSTRUMENT ACKNOWLEDGED BEFORE ME on this the 4th day of May, 1988, by Gregory J. Duerksen, Vice President of Terra International, Inc.

Brenda S. Bradley  
Notary Public State of Iowa  
BRENDA S. BRADLEY, Notary Public  
In and for the State of Iowa  
My Commission Expires Aug. 18, 1989

**BILL OF SALE**

**DATE:** May 6, 1988

**SELLER:** Summit Seed Company, Inc., a Texas corporation

**SELLER'S ADDRESS:** 622 28th Street  
Lubbock, Lubbock County, Texas 79401

**BUYER:** West Texas Seed and Delinting, Inc., a Texas corporation

**BUYER'S ADDRESS:** Box 335  
Slaton, Lubbock County, Texas 79364

**CONSIDERATION:** TEN AND NO/100THS DOLLARS (\$10.00) and other good and valuable consideration, the receipt of which is hereby acknowledged.

**PERSONAL PROPERTY:** (1) Certain fixed assets of Seller relating to its cotton seed business, including those assets listed on Exhibit "1" attached hereto.

(2) Seller's entire cotton breeding and research program, expressly including the breeding rights to all cotton varieties or strains now owned by Seller, including, but not limited to those registered varieties described in Exhibit "2" attached hereto, the advance experimental strains of cotton varieties listed in Schedule "3" attached hereto and all other experimental strains or varieties either in the increased stage or in the laboratory testing stage, and all research data, strains, crosses, seeds, and materials relating to cotton and/or Seller's cotton seed business.

(3) All of Seller's intellectual property rights, whether registered or not, including, without limitation, trade secrets, software, trademarks, service marks, registered names, copyrights, certificates of plant variety protection, and patents relating to Seller's cotton seed business or the assets conveyed herein, except, however, Seller does not convey any goodwill connected with the name "Summit Seed Co." or any variations thereof and WTS&D shall not have the right to use such name except in sale of existing bags, containers and/or labels bearing the Summit name.

(4) All of Seller's existing inventory of registered and breeder's cotton seed, together with all bags, labels and other containers associated with said inventory of cotton seed, and the right to use the labels, and containers in the course of sale of such inventory.

(5) All of Seller's right, title and interest in any claims, causes of action and judgments relating to Seller's cotton seed business for the assets conveyed herein.

(6) All books, records, and other data relating to Seller's cotton seed business or to the purchased assets, including, without limitation, all customer lists, fixed asset records, purchase orders, invoices, sales orders, correspondence, contract files, sales literature, catalogues, brochures, price lists, and product data.

**FOR VALUE RECEIVED** Seller sells and delivers the

personal property to Buyer and warrants and agrees to defend  
title to the personal property to Buyer against all lawful  
claims.

SUMMIT SEED COMPANY, INC., a Texas  
Corporation

By: Gary Rea  
Gary Rea  
Its: President

ATTEST:

Jerry Parker  
Jerry Parker, Secretary

EXHIBIT "1"

One John Deere LP Tractor  
One Debur Machine  
One 10 Saw Table Gin  
One Cotton Press  
One 10 Saw Eagle Gin  
One Lint Cleaner  
One Research Gin  
One Micronaire Gage  
One Smith Air Compressor  
One Cotton Stripper  
One Acid Delinter  
One Saw Gin Condenser  
One Four Row Planter with Cones

EXHIBIT "2"

PVP Certificate Number 8400088, Terra SR-10

PVP Certificate Number 7200043, Deltapine SR-2

PVP Certificate Number 7500089, Deltapine SR-4

PVP Certificate Number 8000052, Deltapine SR-5

PVP Certificate Number 8200137, Deltapine SR-383

PVP Certificate Number 8200067, Deltapine SR-482

PVP Certificate Number 7200042, Deltapine SR-1

PVP Certificate Number 8100098, Deltapine SR-980.

EXHIBIT "3"

X41431

X41432

X41427

X41428

X41402

X61003

X61002

X61001

X61004

Any and all other experimental varieties in existence owned by  
Summit.

## SECURITY AGREEMENT

Date May 6, 1988WEST TEXAS SEED & DELINTING, INC.  
(Debtor's Name)

P. O. Box 355

Street Address

Slaton  
CityLubbock  
CountyTexas 79364  
State

(hereinafter called DEBTOR) for value received hereby grants to

LORENZO STATE BANK

(Secured Party's Name)

(hereinafter called SECURED PARTY) whose address is P. O. Box 490

Street

Lorenzo, Crosby County, Texas 79343

City, County, and State

a security interest in and mortgages to SECURED PARTY the following described property (which hereinafter is referred to as COLLATERAL) to-wit:

All of Debtor's right, title and interest in and to the following Plant Variety Protection Certificates, each in the name of West Texas Seed & Delinting, Inc.

1. Certificate No. 8400088, Terra SR-10
2. Certificate No. 7200043, Deltapine SR-2
3. Certificate No. 7500089, Deltapine SR-4
4. Certificate No. 8000052, Deltapine SR-5
5. Certificate No. 8200137, Deltapine SR-383
6. Certificate No. 8200067, Deltapine SR-482
7. Certificate No. 7200042, Deltapine SR-1
8. Certificate No. 8100098, Deltapine SR-980

(Note—If COLLATERAL is crops, or oil, gas or minerals to be extracted, or timber to be cut, or if COLLATERAL is to become a fixture, describe in the above space following the description of the COLLATERAL the real estate concerned, and give the name of the record owner hereof.)

to secure DEBTOR'S note to SECURED PARTY dated May 6, 19 88, for \$ 365,000.00

DEBTOR warrants and covenants: (Note—Place checkmark (✓) in the blank space before each statement which applies to this agreement.)

- ( ) COLLATERAL is to be used for personal, family, or household purposes.  
 (X) COLLATERAL is to be used in business other than farming operations.  
 ( ) COLLATERAL is equipment used in farming operations, or farm products, or accounts, contract rights or general intangibles arising from or relating to the sale of farm products by a farmer.  
 ( ) COLLATERAL is accounts or contract rights and the records concerning same are kept at

- ( ) COLLATERAL is a fixture attached to or to become a fixture attached to the above described land.  
 ( ) COLLATERAL is being acquired by DEBTOR from SECURED PARTY or is being acquired with the proceeds of the advance evidenced by this agreement.

DEBTOR'S residence is at:

P. O. Box 355, Slaton, TX 79364  
(Address)

COLLATERAL will be kept at:

P. O. Box 355, Slaton, TX 79364  
(Address)

DEBTOR'S chief place of business is at:

P. O. Box 355, Slaton, TX 79364  
(Address)

or if left blank at address given for DEBTOR.

The warranties, covenants, terms and agreements on the reverse side hereof are incorporated herein and made a part hereof for all intents and purposes. DEBTOR and SECURED PARTY as used in this Security Agreement include the heirs, executors or administrators, successors or assigns of those parties.

SECURED PARTY:

DEBTOR:

LORENZO STATE BANK

Name

By Max Joiner  
(Signature) (Title)  
MAX JOINER, Exec. Vice President

WEST TEXAS SEED &amp; DELINTING, INC.

Name

H. R. Donaldson  
(Signature) (Title)  
H. R. DONALDSON, President



SALE AND ROYALTY AGREEMENT

This Agreement made and entered into on the date hereinafter written, by and between SOUTHLAND SEED COMPANY, a Texas partnership, hereinafter called "Southland," and SEEDCO CORPORATION, a Texas corporation, hereinafter called "Seedco," as follows:

WHEREAS, Southland is the owner of certain equipment and an inventory of planting seed including legally protected varieties of seed, and

WHEREAS, Seedco desires to purchase the equipment owned by Southland identified in the attached Exhibit "A" for the price set out in the attached Exhibit "A" upon the terms and conditions set out in the Agreement, and

WHEREAS, Seedco further desires to purchase the inventory of planting seed of Southland and the right to reproduce and market the seed varieties of Southland upon the terms and conditions set out in this Agreement, and

WHEREAS, the parties have entered into this Agreement for the purpose of evidencing their agreements and intentions in connection with the property and rights to be acquired by Seedco from Southland.

NOW, THEREFORE, for and in consideration of the mutual benefits to the parties hereto and the covenants and agreements set out herein, it is mutually agreed as follows:

10. Texas Law to Apply. This contract shall be construed and enforced in accordance with the laws of the State of Texas, and all obligations hereunder are performable in Lubbock County, Texas.

11. Binding Effect. This Agreement shall be binding on the parties hereto, their heirs, legal representatives, successors, and assigns to the extent of any permitted assignment.

DATED this 7th day of October, 1991, but effective September 1, 1991.

**SOUTHLAND SEED COMPANY,**  
A Texas Partnership

P.O. Box 335  
Slaton, Texas 79364

By:   
JIM GRAY, Partner

By:   
JAY FRANK GRAY, Partner

**SEEDCO CORPORATION**

103 East Erskine  
Lubbock, Texas 79403

By:   
LOYD LANGFORD, President

# WEST TEXAS SEED

AND DELINTING, INC.

FM 400 North - P.O. Box 335 - Slaton, Texas 79364 - (806) 828-5845

To Whom It May Concern:

The Plant Variety Protection for Southland M-1 and Southland 400 are under the name of Southland Seed Company.

The Plant Variety Protection for Deltapine SR-383, 482, SR-5, 980 and Terra SR-10 are under the name of West Texas Seed & Delinting, Inc.

Southland Seed Company was a subsidiary of West Texas Seed & Delinting, Inc. and at the time of purchase were one in the same.

All varieties listed above under Southland Seed Company and West Texas Seed & Delinting, Inc. were all owned by the same entity.

  
Jim Gray  
Owner/Manager